

UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION

COAL MINE SAFETY AND HEALTH

REPORT OF INVESTIGATION

Underground Coal Mine

Fatal Slip and Fall Accident
September 16, 2007

Coalfield Services, Inc. (R58)
Wytheville, Wythe County, Virginia

at

Mountaineer II Mine
Mingo Logan Coal Company
Sharples, Logan County, West Virginia
I.D. No. 46-09029

Accident Investigators

Dennis J. Holbrook
Coal Mine Safety and Health Inspector

James A. Maynard
Coal Mine Safety and Health Inspector

Originating Office
Mine Safety and Health Administration
District 4
100 Bluestone Road
Mount Hope, West Virginia 25880
Robert G. Hardman, District Manager

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OVERVIEW

At approximately 6:58 a.m. on Sunday, September 16, 2007, Robert D. Fraley, a 54-year old construction worker with 20 years mining experience was fatally injured at the Mingo Logan Coal Company, Mountaineer II Mine. The accident occurred when the victim crossed an installed protective handrail and fell approximately 337 feet down a ventilation shaft.

At the time of the accident, work was being conducted to grind the concrete floor to provide additional clearance for the installation of automatic closing louvers (doors). For unknown reasons, the victim traveled into a hazardous location beyond the protective handrail without fall protection.

GENERAL INFORMATION

The Mountaineer II Mine is an underground coal mine located in Logan County, 2 miles south of Sharples, West Virginia on State Route 17. The mine operates in the Alma coal seam. Three active mining sections are operated which utilize two Joy Mining Machinery model 12CM12 continuous mining machines and one Joy Mining Machinery model 14CM15 continuous mining machine. The mine is actively developing longwall panels for future longwall mining operations. Coal is transported on the mining sections with shuttle car haulage. Conveyor belts transport the coal to the surface. The mine utilizes one slope and one shaft opening for transportation of men and materials. Two ventilation shafts are used for mine ventilation.

The mine is in 103(i) status due to methane liberation of 2,121,769 cubic feet of methane in 24 hours. The mine is ventilated with a Joy Mining Machinery model M120 fan, installed in an exhausting arrangement, which generates 2,700,000 cubic feet of air per minute (cfm).

Prior to the accident, the Mine Safety and Health Administration (MSHA) completed the last regular safety and health inspection on March 28, 2007. An additional regular safety and health inspection was started on July 18, 2007, and was on-going at the time of the accident. The last MSHA inspection day prior to the accident was September 12, 2007. The Non-Fatal Days Lost (NFDL) injury incidence rate for the mine in 2007 is 0.00 compared to the national rate of 4.57 for underground mines.

DESCRIPTION OF THE ACCIDENT

On September 15, 2007 at 11:45 p.m., Darrell Spencer, foreman; Robert Fraley and Jesse Williams, construction workers, employees of Coalfield Services, Inc., arrived at the main mine fan installation. The crew began to assemble tools and equipment in preparation for grinding of the concrete floor within the ventilation structure. The floor of the ventilation structure needed grinding to allow adequate clearance for the installation of a louver, a type of automatic closing door. The concrete floor within the ventilation structure was uneven and required leveling prior to the installation. Work was being performed on the third shift because the main mine fan would need to be deenergized as the work commenced.

In preparation for the work on the ventilation structure, all miners were removed from the mine and the mine ventilation fan was stopped. Rodney Adkins, electrician, deenergized and locked out the ventilation fan electrical circuit. Adkins then conducted a methane examination within the ventilation structure. A Solaris multi-gas detector was provided to Spencer by Adkins for the detection of mine gases while grinding was being performed. Adkins returned several times during the night to check on the progress of the work.

Fraley and Williams began operating the grinding machine, each taking alternating turns at operating the machine. The work area was well lighted with flood lights providing illumination. At approximately 2:00 a.m., Spencer left the mine site to purchase additional gasoline for the grinding machine. Spencer was absent for approximately 50 minutes. During this time, Fraley and Williams rotated the duty of operating the grinding machine.

After approximately 15 minutes of grinding the Solaris multi-gas detector gave an audible and visible alarm. The detector alarm was caused by the presence of carbon monoxide (CO) from the gasoline powered grinding machine. In response to the presence of CO, Fraley contacted Shawn Grimmatt, foreman for the mine operator. Grimmatt traveled to the work site, performed an additional gas check and confirmed the presence of CO. In response to the slightly elevated levels of CO, grinding work was conducted for 15 to 20 minutes and the gasoline powered grinder was turned off to limit CO accumulation.

Grimmett made several additional trips to the fan installation to check on the progress of the work. During one trip he provided Williams with a broom to sweep the concrete dust from the installation. Grinding and sweeping duties were alternated to prevent the CO levels from becoming excessive. The concrete dust was shoveled and deposited outside the access door to the structure. As grinding was being conducted, one person would stand next to the protective handrail which separated the work area from the ventilation shaft. Due to natural ventilation within the structure, the dust created by the grinder was less dense near the railing.

When Spencer returned, the three had lunch at the trailer near the work site for approximately 30-45 minutes. At approximately 6:00 a.m. the three returned to work and grinding commenced. Spencer and Williams rotated grinding duties as Fraley removed dust by sweeping. While grinding, concrete dust exited the door of the structure. To avoid additional dust exposure, one member of the crew would stand outside of the structure, away from the access door. The crew alternated with one person outside of the structure to avoid the dusty conditions.

The crew periodically used a string line and laser levels to check the concrete floor for level. At approximately 6:30 a.m., the concrete floor was checked for level and then Spencer walked outside of the structure to avoid the dust. At this time, Fraley was standing next to the railing, and Williams was operating the grinding machine. While grinding, Williams thought he heard a loud voice or someone shouting. He looked up and did not see Fraley in the building. He went outside where he met Keith Goins, mine foreman, and Grimmett. The two foreman asked Williams if he was ready for the main mine fan to return to operation. Williams replied he believed work was completed, but he first wanted to find the supervisor. Goins and Grimmett left the area and Spencer looked around for Fraley. Goins and Grimmett returned in approximately 10 minutes, again inquiring if the main mine fan could be started. Spencer indicated to the two foremen that there was a problem because he could not locate Fraley.

The area around the fan installation was searched for the missing miner. Willis Cochran, shop foreman employed by the mine operator, arrived at the fan installation around 7:30 a.m. and assisted in the search for Fraley. At approximately 7:50 a.m. Cochran restarted the fan to ventilate the mine and facilitate the search for the missing miner at the bottom of the air shaft. The victim was found at 8:20 a.m., located at the bottom of the mine ventilation shaft.

INVESTIGATION OF THE ACCIDENT

The Mine Safety and Health Administration was notified of the accident at 8:30 a.m. on September 16, 2007 via the MSHA accident reporting hotline. An MSHA inspector from the Logan Field Office arrived at the scene and issued a 103(k) order to insure the safety of all persons during the investigation. The investigation was conducted in collaboration with the West Virginia Office of Miners Health Safety and Training (WVOMHST), and the West Virginia State Police, with the assistance of the mine operator and the mine

employees. A list of the persons who participated in the investigation is contained in Appendix A.

DISCUSSION

Coalfield Services, Inc

Coalfield Services, Inc, MSHA contractor ID R58, is a commercial and industrial general contractor located in Wytheville, Virginia. The company primarily provides design, fabrication and construction services to the mining industry. Coalfield Services, Inc. installed the main mine fan and designed and installed the main mine fan ventilation structure.

Ventilation Shaft

The accident occurred at the main return air shaft of the mine. The main return shaft is 20 feet in diameter, approximately 337 feet deep, terminating at the coal seam level. The area surrounding the shaft opening and shaft collar consisted of a concrete floor with a 3 ft. conclave (rounded edge) on the outer edge to improve airflow. The shaft is lined with reinforced concrete, and a series of ladders and platforms are installed along the shaft wall. The ladders and platforms provide access from the Alma seam being mined to the overlying Cedar Grove seam and to a water ring located above the active mine works.

Ventilation Fan Installation

An axial-flow mine fan was installed on the steel ventilation structure surrounding the shaft collar. The fan was arranged in an exhausting configuration, pulling air from the mine and exhausting through the fan outlet. The structure is designed to allow a second fan to be installed in the future. To prevent air reversal in the adjacent fan while one fan is operating, louvers or automatic closing doors are necessary. Louvers were previously installed for the current mine fan. The concrete grinding work was being conducted to provide adequate space for the installation of the louver in the structure for the planned second mine fan.

Work Area

A protective handrail was located approximately 8 feet from the shaft collar to prohibit entry into the area surrounding the ventilation shaft. The handrail extended from wall to wall for a distance of 15 feet and consisted of two horizontal rails and three vertical leg supports. The horizontal components were constructed of 3/4-inch thick cold rolled mild steel. The bases of the vertical supports were anchored to the concrete pad with bolts. The bolts were firmly installed with no obvious play or movement. The upper metal rail was 42-inches above, and parallel to, the concrete floor. The parallel lower rail was 24 inches below the top rail. The spacing of the rails was sufficient to prevent persons from inadvertently falling between the rails. Furthermore, the railing was high enough to prevent persons from falling over the top rail. The protective handrail was well designed and constructed with no obvious flaws or deficiencies.

Concrete floor grinding was being conducted 11 feet from the handrail. The handrail was located between the worksite and the edge of the ventilation shaft. Footing within the work site and the handrail area was smooth, dry, and not slippery. The floor had no

fluids or other substances which would contribute to a slip or fall. No noticeable slip or fall hazards were present within the ventilation housing installation. Temporary flood lights were provided to ensure adequate illumination during the work.

ROOT CAUSE ANALYSIS

An analysis was conducted to identify the most basic causes of the accident that were correctable through reasonable management controls. The handrail was in good repair and would prohibit persons from entering the shaft collar area. The physical environment of the work area was sufficient to prevent an accident from occurring. In addition, persons working on the ventilation structure were trained in fall protection, including the use of lanyards and safety harnesses. The investigation could not determine any reason for the miner to travel beyond the barrier and a reason for the fall could not be determined. Therefore root causes could not be determined.

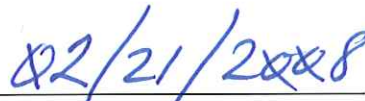
CONCLUSION

The miner was fatally injured when he fell into the return air shaft. The victim traveled beyond a railing designed to protect persons from the entering the hazardous area at the top of the shaft. The reason the victim entered the area could not be determined. No work was to be performed beyond the railing. Training in fall protection, including the use of lanyards and safety harnesses was provided prior to the commencement of work activities.

Approved By:



Robert G. Hardman
District Manager


Date

ENFORCEMENT ACTIONS

1. A 103(k) Order was issued to Mingo Logan Coal Company to ensure the safety of persons at the mine until an investigation of the accident could be completed.

APPENDIX A
Persons Participating in the Investigation

Mingo Logan Coal Company

Greg Dotson	Mine Manager
Carlos Porter	General Mine Foreman
Keith Goins	Mine Foreman
Doug Conway	Corporate Safety Manager
Dickie Estep	Safety Manager
Mark Heath	Attorney
Shawn Grimmett	Foreman
Steve Bias.....	Foreman
Willis Cochran	Maintenance Foreman
Aaron Price	Foreman
Rodney Adkins.....	Electrician
Carl Baisden.....	Consultant

Coalfield Services, Inc.

Larry Potterfield.....	Supervisor
Michael Houseman	Contract Manager
Darrell Spencer	Lead Foreman
Jesse Williams.....	General Labor
Jason Natzman	Attorney
Robert H. Beatty JR	Attorney

West Virginia Office of Miners' Health, Safety and Training

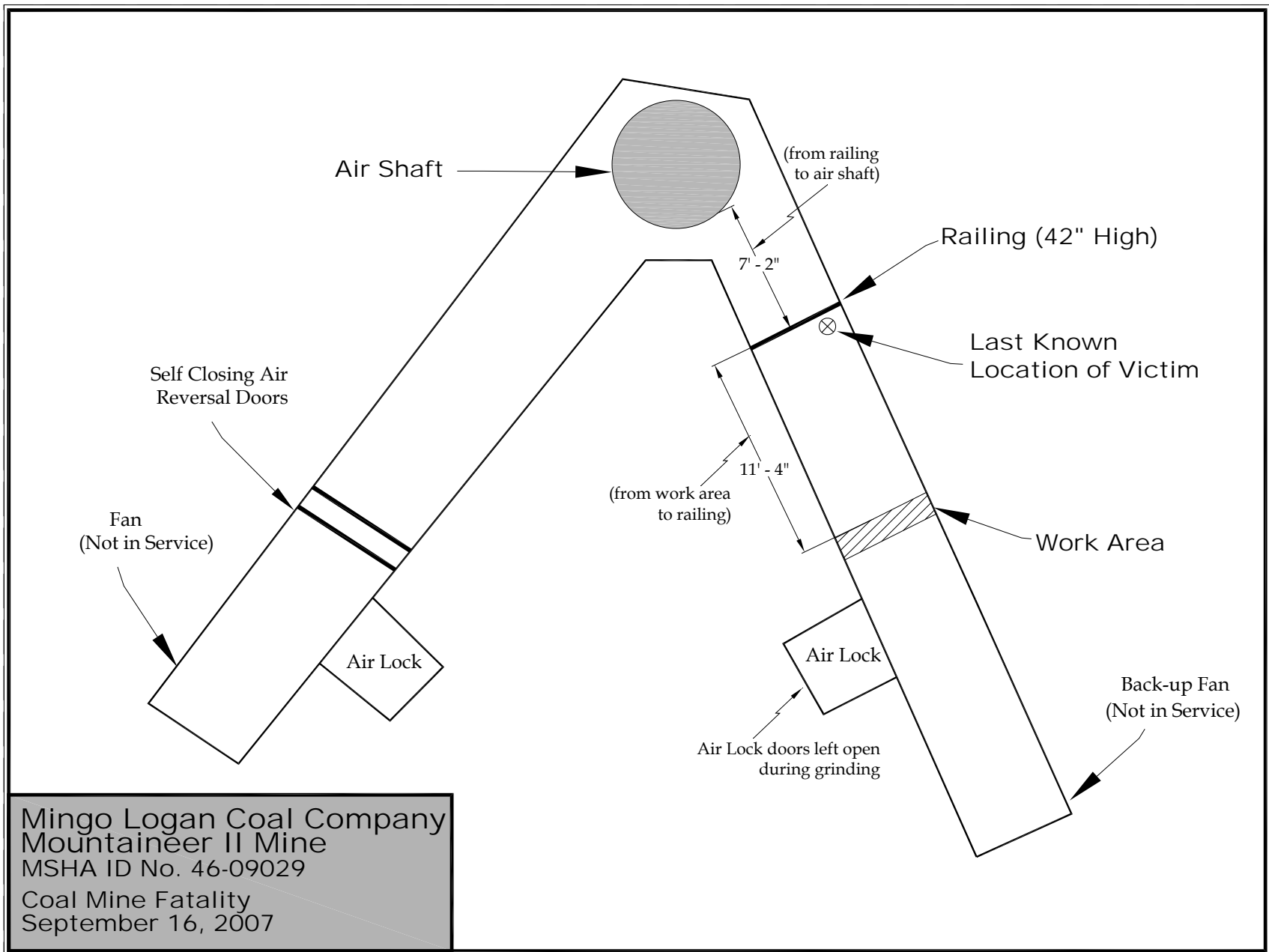
Ron Wooten	Director
Eugene Vance	Inspector at Large
Terry Farley	Administrator
Michael Pauley.....	Inspector

Mine Safety and Health Administration

Dennis J. Holbrook	Accident Investigator
Jack Hatfield	Coal Mine Safety and Health Inspector
James Maynard	Coal Mine Safety and Health Inspector
Steve Toler	Coal Mine Safety and Health Inspector (in Training)

West Virginia State Police

JE Williams.....	Trooper
Greg Collins.....	Trooper



Accident Investigation Data - Victim Information

U.S. Department of Labor
Mine Safety and Health Administration



Event Number: 4 1 1 4 2 6 9

Victim Information: 1										
1. Name of Injured/Ill Employee: ROBERT D. FRALEY			2. Sex M		3. Victim's Age 54		4. Last Four Digits of SSN:		5. Degree of Injury: 01 Fatal	
6. Date(MM/DD/YY) and Time(24 Hr.) Of Death: a. Date: 09/16/2007 b. Time: 6:58						7. Date and Time Started: a. Date: 09/16/2007 b. Time: 0:00				
8. Regular Job Title: 016 LABORER				9. Work Activity when Injured: 088 SURFACE CONSTRUCTION				10. Was this work activity part of regular job? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
11. Experience a. This Work Activity:			Years Weeks Days		b. Regular Job Title:		Years Weeks Days		c. This Mine:	
13 12 0					13 12 0				0 0 1	
12. What Directly Inflicted Injury or Illness? 123 FALL TO MINE FLOOR						13. Nature of Injury or Illness: 100 MULTIPLE AMPUTATION				
14. Training Deficiencies: Hazard: New/Newly-Employed Experienced Miner: Annual: Task:										
15. Company of Employment: (If different from production operator) COALFIELD SERVICES INC										Independent Contractor ID: (if applicable) R58
16. On-site Emergency Medical Treatment: Not Applicable: First-Aid: CPR: EMT: Medical Professional: None: <input checked="" type="checkbox"/>										
17. Part 50 Document Control Number: (form 7000-1)						18. Union Affiliation of Victim: 9999 None (No Union Affiliation)				

Victim Information:										
1. Name of Injured/Ill Employee:			2. Sex		3. Victim's Age		4. Last Four Digits of SSN:		5. Degree of Injury:	
6. Date(MM/DD/YY) and Time(24 Hr.) Of Death:						7. Date and Time Started				
8. Regular Job Title:				9. Work Activity when Injured:				10. Was this work activity part of regular job? Yes <input type="checkbox"/> No <input type="checkbox"/>		
11. Experience: a. This Work Activity:			Years Weeks Days		b. Regular Job Title:		Years Weeks Days		c. This Mine:	
13 12 0					13 12 0				0 0 1	
12. What Directly Inflicted Injury or Illness?						13. Nature of Injury or Illness:				
14. Training Deficiencies: Hazard: New/Newly-Employed Experienced Miner: Annual: Task:										
15. Company of Employment: (If different from production operator)										Independent Contractor ID: (if applicable)
16. On-site Emergency Medical Treatment: Not Applicable: First-Aid: CPR: EMT: Medical Professional: None:										
17. Part 50 Document Control Number: (form 7000-1)						18. Union Affiliation of Victim:				

Victim Information:										
1. Name of Injured/Ill Employee:			2. Sex		3. Victim's Age		4. Last Four Digits of SSN:		5. Degree of Injury:	
6. Date(MM/DD/YY) and Time(24 Hr.) Of Death:						7. Date and Time Started:				
8. Regular Job Title:				9. Work Activity when Injured:				10. Was this work activity part of regular job? Yes <input type="checkbox"/> No <input type="checkbox"/>		
11. Experience: a. This Work Activity:			Years Weeks Days		b. Regular Job Title:		Years Weeks Days		c. This Mine:	
13 12 0					13 12 0				0 0 1	
12. What Directly Inflicted Injury or Illness?						13. Nature of Injury or Illness:				
14. Training Deficiencies: Hazard: New/Newly-Employed Experienced Miner: Annual: Task:										
15. Company of Employment: (If different from production operator)										Independent Contractor ID: (if applicable)
16. On-site Emergency Medical Treatment: Not Applicable: First-Aid: CPR: EMT: Medical Professional: None:										
17. Part 50 Document Control Number: (form 7000-1)						18. Union Affiliation of Victim:				